

ABSTRACT
QUANTUM WELL INTERMIXING

In a method of manufacturing a photonic integrated
5 circuit having a compound semiconductor structure having a
quantum well region, the structure is irradiated using a
source of photons to generate defects, the photons having
energy (E) at least that of the displacement energy (E_D) of
at least one element of the compound semiconductor. The
10 structure is subsequently annealed to promote quantum well
intermixing. The preferred radiation source is a plasma
generated using an electron cyclotron resonance (ECR)
system. The structure can be masked in a differential
manner to selectively intermix the structure in a spatially
15 controlled manner by controlling the exposure portions of
the structure to the source of radiation.

(Figure 4)